

REMARKS

Applicants respectfully traverse and request reconsideration. Applicants would like to request that the Examiner for the Examiner Interview on January 12, 2005 and for the agreements reached as described below.

According to the Advisory Action dated February 9, 2005, the amendments proposed in the response dated January 31, 2005 were not entered. Applicants request the proposed amendments in this response be entered. Original Claims 10, 14, 19, 22 and 26 are amended to depend upon allowed independent Claims 56 through 58. As a result, Claims 10, 14, 19, 22 and 26 are allowable for at least the reasons that the independent claims are allowed.

Nevertheless, the Advisory Action, dated February 9, 2005, asserts that Claims 10, 14, 19, 22 and 26 lack compliance with 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter in the previous claims. The Advisory Action also asserts that Claims 56 through 58 are drawn to Species I, as depicted in FIG. 6 requiring that the unpackaged die be wire bonded to the substrate.

As a preliminary matter, the restriction requirement between Species I and III is improper because (1) Species I and III are not mutually exclusive, (2) the Office Action improperly imports limitations to Claims 56 through 58 and (3) the restriction between Species I and III is untenable.

According to the Office Action dated June 18, 2004, the Office Action rejoined Species II with Species I. Nevertheless, this Office Action asserted that Claims 7, 10, 14, 19, 22, 26-40, 50-54 and 55 are withdrawn for being directed to nonelected Invention II and Species III, respectively. The Office Action on November 30, 2004, asserted that Species III includes Claims 7, 10, 14, 19, 22 and 26. Applicants traversed this restriction requirement in the response dated January 31, 2005, arguing among other things, that since Claims 7, 10, 14, 19, 22 and 26

BEST AVAILABLE COPY

are all dependent from allowed independent Claims 59-60, the independent and dependent claims cannot cite elements that are mutually exclusive.

Nevertheless, the Advisory Action disagreed and asserted that independent Claims 56 through 58 are mutually exclusive from the limitations of the dependent claims including Claims 10, 14, 19, 22 and 26. According to M.P.E.P. 806.04(f), the general test as to when claims are restricted, respectively, to different species is the fact that one claim recites limitations which under the disclosure are found in a first species but not in a second, while a second claim recites limitations disclosed only for the second species and not the first. However, claims 10, 14, 19, 22 and 26 depend from independent Claims 56 through 58 and therefore, dependent Claims 10, 14, 19, 22 and 26 are not mutually exclusive with respect to independent Claims 56 through 58. For example, Claim 10 is dependent on Claim 56 and therefore includes all the limitations of Claim 56, and further includes the limitation "wherein the unpackaged semiconductor die is underfilled." Since Claim 10 includes at least all the limitations of Claim 56, Claim 56 does not include limitations not recited in Claim 10 and therefore, these claims are not mutually exclusive. In other words, since Claim 10 includes all the limitations of Claim 56 and at least one limitation not recited in Claim 56, Claim 56 does not include any limitations not recited in Claim 10. Therefore, by virtue of Claim 10 depending on Claim 56, Claims 10 and 56 are not mutually exclusive. As a result, two way distinctiveness is not shown between Claims 10 and Claim 56, and therefore Species I and III fail the mutually exclusive test according to M.P.E.P. 806.04(f). Similarly, dependent Claims 19, 22 and 26 do not recite limitations not included in their respective independent claims. As a result, mutual exclusiveness per M.P.E.P. 806.04(f) is not established. Therefore, the assertion in the Advisory Action that dependent Claims 10, 14, 19, 22 and 26 are mutually exclusive with Claims 56 through 58 is contradicted by the language of the claims.

The Office Action also asserts that Claims 56 through 58 require the unpackaged die to be wire bonded to the substrate. However, Claims 56 through 58 do not cite wire bonding to the substrate. For example, Claim 58 recites "an unpackaged semiconductor die mounted to the first surface of the substrate." Claim 59 recites "a packaged semiconductor die mounted to the first surface of the substrate." Therefore claims 58 and 59 do not recite any particular type of attachment and as a result either or both claims encompass all types of attachment, including wire bonding, flip chip, direct attachment, solder balls, etc. For example, Claims 58 and 59 would both encompass the wire bonds shown in FIGS. 3 through 6 as well as the flip chip attachment shown in FIGS. 7 through 9. Since Claims 56 through 58 are silent with respect to any particular type of attachment, the assertion that Claims 56 through 58 require the unpackaged die be wire bound to the substrate imports limitations into Claims 56 through 58 and therefore is improper.

The assertion that the dependent Claims 10, 14, 19, 22 and 26 violate 35 U.S.C. § 112 fourth paragraph is improper since these dependent claims further limit the independent claims. For example, with regard to Claim 22, the embodiment, as described in FIGS. 8 and 9, illustrate and provide adequate support for the graphics processing die, as well as an unpackaged semiconductor die being underfilled. (Also see the Specification on page 6, lines 1 through 6, describing underfilled material 170 with reference to FIG. 8). Also this rejection is improper because adequate support for these dependent claims is provided as described in response to previous office actions. For at least these reasons, the Office Action fails to show that Claims 10, 14, 19, 22 and 26 violate 35 U.S.C. § 112 fourth paragraph.

The restriction between Species I and II is untimely. 37 C.F.R. § 1.142(a) and MPEP § 81 define the time period for properly making a restriction requirement as being "... before any action upon the merits ..." As stated in MPEP § 811, "the Examiner should make a proper

requirement as early as possible in the prosecution, in the first action if possible ...” The Office Action dated June 14, 2002, describes Species I depicted in FIG. 5, Species II depicted in FIG. 6, and Species III depicted in FIG. 9. However, the Office Action dated June 14, 2002 did not relate any of the claims to Species I, II and III. The Examiner did not relate any claims to Species I, II or III until June 18, 2004. Under MPEP § 811, the restriction of Claims 7, 10, 14, 19, 22 and 26 asserted not until June 18, 2004, is untimely as being made well after the first action on the merits in this case; and, in fact, even after a final Office Action has been issued (see final Office Action dated November 18, 2002). Therefore, under MPEP § 811, the last appropriate time to require restriction between Species III and Species I was November 18, 2002 or earlier, the mailing date of the final Office Action. Consequently, as the time for properly making a restriction requirement has lapsed, the Applicants submit that the instant restriction requirement is improper and should be withdrawn. Accordingly, reconsideration of the restriction requirement is respectfully requested.

Claim 59 is rejected under 35 U.S.C. § 103(a), based on Tanoka in view of Distefano. As agreed during the Examiner Interview, amending Claim 59 to include the Claim language “wherein the planar top surface of the encapsulated structure in the top surface of the package semiconductor are of equal distance from the substrate” would overcome the current rejection. Therefore, withdrawal of the rejection and allowance of Claim 59, pursuant to the agreement reached during the Examiner Interview, is hereby respectfully requested.

Support for new claims 61 and 62 are provided at least based on claim 58 and claim 10.

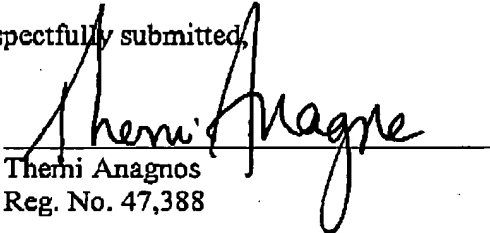
CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance. The

Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

By:


Themi Anagnos
Reg. No. 47,388

Dated: February 25, 2005

Vedder, Price, Kaufman & Kammholz, P.C.
222 North LaSalle Street
Chicago, Illinois 60601
Telephone: (312) 609-7500
Facsimile: (312) 609-5005

CIIC GO/11338417.1 2/22/05
0010 01.0068

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.